

Consumer Ethnocentrism as a Cure for the Energy Crisis: The Nexus of Consumer Ethnocentrism and Attitudes Toward Energy Conservation

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Abstract

The article examines consumer ethnocentrism, attitudes toward energy conservation, and possible connections between these concepts. The main aim of the article is to examine the influence of ethnocentric tendencies on attitudes toward energy conservation during an energy crisis. The article focuses on Generation Z, with 501 respondents participating in the primary research after data cleaning. To measure consumer ethnocentrism, we use CETSCALE, and to measure attitudes toward energy conservation, we use ATEC. From a methodological perspective, we use reliability estimation coefficients (McDonald's omega, Cronbach's alpha, Item-rest correlation), confirmatory factor analysis (CFA), as well as elements of descriptive and inductive statistics. The results indicate a low level of consumer ethnocentrism and a negative attitude toward energy conservation that is above average. It can be stated that the more ethnocentric the consumers of the studied cohort are, the higher their willingness and effort to address energy conservation.

Keywords

Consumer ethnocentrism. Attitudes toward energy conservation. Energy policy. CETSCALE; ATEC. Global crises.



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Introduction

According to Shimp & Sharma (1987), CE is understood in an economic sense. It refers to consumers' belief that prioritising domestic products is economically and morally correct, and that purchasing foreign products may have adverse consequences for the domestic economy. CE stems from a sense of national pride but also reflects concern about the economic impacts that imports may have on local businesses and jobs. Shankarmahesh (2006) sees, in the economic perspective of Shimp & Sharma (1987), a personality characteristic, where CE is understood as a relatively stable trait of an individual's personality, influencing their preferences and attitudes towards foreign products. CE is not understood merely as a temporary preference but as an ingrained belief and value that an individual carries long-term (Shankarmahesh, 2006). This approach also suggests that the level of CE may be to some extent predictable based on individual consumer characteristics, such as life beliefs, cultural background, emotional solidarity, attachment to place, and co-creation of value (Gedecho, 2023; Amani, 2023).

CE is a factor that influences consumers' attitudes and preferences towards domestic products compared to foreign products. The importance of this construct is recognised in research and subsequently in marketing practice, especially today, when globalism threatens small markets and jobs, and domestic consumption is strongly supported (Miguel et al., 2023). Increasing concerns about globalisation and political support for restricting international trade heighten the importance of updated empirical insights on CE (Zeren et al., 2020). As a result of progress and globalisation, according to Baber et al. (2023), it can be stated that the concept of ethnocentrism has become more relevant.

Javalgi et al. (2005) based their CE research on French consumers. Čvirik et al. (2023) examined CE in Slovakia and Croatia. Jia et al. (2023); Hsu & Nien (2008); Xu et al. (2020); Sun et al. (2021) based their research on a sample of Chinese consumers. The issue of CE in the German market was addressed by Evanschitzky et al. (2008), Müller & Lindenmeier (2022), and De Nisco et al. (2020). The issue of market ethnocentrism in the comparison of Poland, Russia, the USA, and Japan was addressed by Yoo & Donthu (2005), Neuliep et al. (2001), and Huddleston et al. (2001). Ethnocentrism in a sample of African consumers was addressed by Kibret & Shukla (2021) and Robinson (2020). From the above, we can state that the number of countries where the issue of CE is socially and publicly accentuated is increasing.

Although the scientific literature offers several implementations and connections of consumer ethnocentrism, the influences and connections between the degree of consumer ethnocentrism and attitudes toward energy conservation have not yet been explored, despite many studies pointing to the high need to address the energy crisis, which affected parts of the world with an emphasis on European countries and the global market in 2023 (Farghali et al., 2023; Parag et al., 2023; Ozili & Ozen, 2023), ultimately creating an economic and financial crisis (Shabbir & Chaman, 2024). Given the previous context, there is space to explore this issue and supplement the knowledge base. At the same time, the results presented in the article may provide important insights into consumer behaviour and opportunities to improve the environment and energy efficiency, thereby strengthening the economy in the studied country. Based on the above, it can be concluded that the aim of the presented article is to examine the influence of ethnocentric tendencies on attitudes toward energy conservation during the energy crisis.

Literature review

CE is one of the significant variables influencing consumers' decisions on purchasing foreign products (Trivedi et al., 2024; Mkedder & Bakır, 2023; Zhou & Sulaiman, 2023). According to Trivedi et al. (2024), CE can be used to better understand the perception of domestic and foreign products, which can help improve marketing strategies to strengthen the preference for domestic products (Trivedi et al., 2024). The effects on CE vary with a country's level of economic development. In the context of CE, various cultural, economic, and ethnic aspects prove to be predictors, with a long-term focus on these differences playing a key role in predicting consumer behaviour (Balabanis & Siamagka, 2022). The concept of CE is used to identify country-of-origin labels, consumer hostility toward purchasing products from other countries, and purchasing local products (Ferrales & Grunert, 2024). Origin is often one of the main characteristics associated with geographical proximity and is considered a significant attribute linked to safety and quality. Consumers are usually more willing to pay a higher price for domestic products than for imported ones, reflecting their preference for domestic goods (Török et al., 2023). In contrast to this view, Miguel et al. (2023) believe that individuals may exhibit a high degree of CE towards a specific category of exported goods while displaying positive purchasing behaviour towards another. The research by Zeren et al. (2020) shows that CE indirectly influences consumers' willingness to buy foreign products across markets. CE is a dynamic process that changes over time (Miguel et al., 2023). This dynamic suggests that the role of CE can be flexible and that its impact depends on factors such as social norms, which play a key role in shaping consumer preferences.

Social norms influence consumers' intention to purchase domestic products. According to Jia et al. (2023), social norms serve as a baseline factor that indirectly shapes purchasing intention through consumer ethnocentrism and evaluations of domestic products. These variables serve as mediators, conveying the influence of social norms,

reinforcing preferences for domestic products, and increasing the intention to buy them. In contrast, xenocentrism can disrupt this process. Consumers with xenocentric attitudes often prefer foreign products, even when domestic ones may be of higher quality (Thoumrungroje et al., 2024). Camacho et al. (2020) state that xenocentrism weakens the influence of social norms and consumer ethnocentrism on consumers' purchasing intentions. In this context, nation branding plays a significant role, as noted by Rojas-Méndez and Khoshnevis (2023), showing how national identity and reputation influence product perception. This concept can strengthen xenocentric tendencies, where foreign products are preferred regardless of their actual quality. According to Rojas-Méndez and Chapa (2020), xenocentrism has two dimensions: foreign admiration and domestic rejection. Foreign admiration involves positive evaluations of foreign products and cultures, whereas domestic rejection manifests as distrust and negative assessments of local products. These dimensions comprehensively explain why xenocentric consumers prefer foreign products, which has a fundamental impact on their purchasing behaviour.

The authors Hsu & Nien (2008) state that ethnocentrism has a strong influence on preferences for domestic brands and that there are conceptual frameworks and patterns of CE. Baber et al. (2024) proposed a framework that integrates the consequences of CE. This includes socio-psychological, political, and demographic predictors influencing CE and consumer behaviour, such as intentions to purchase and repurchase products, willingness to pay, and brand preferences. Miguel et al. (2023) observe an ethnocentric tendency among consumers who exhibit both strong ethnocentrism, manifested as resistance to foreign products, and weak ethnocentrism, which reflects a preference for domestic products without fully rejecting foreign goods. Ferrales & Grunert (2024) expanded the concept of ethnocentrism to include various levels of consumer groups regarding product selection. This approach is based on social identity and self-categorisation theories, which examine how individuals identify with aspects such as nationality, values, region, or cultural traditions. Baber et al. (2023) state that consumers focused on product quality and value prefer favourable offers associated with high quality.

Consumers' ethnocentric tendencies can influence their decision-making when selecting energy products. This highlights the importance of awareness and financial literacy in the energy sector, which supports sustainable and efficient energy consumption decisions (Kalmi et al., 2021; Ferrales & Grunert, 2024). Consumer education is desirable as it increases awareness of options for reducing energy consumption, promotes responsible behaviour, and contributes to long-term financial savings and environmental protection (Tyagi et al., 2020). Awareness is a central variable in influencing energy consumption (Kalmi et al., 2021). Consumers' knowledge and attitudes have a significant and positive impact on sustainable behaviour (Khan et al., 2020). Informational interventions can improve household energy savings by highlighting the complementarity between providing information and energy-related financial literacy (Kalmi et al., 2021).

As stated by Milstein (1979) and later by Tashchian et al. (1984), three important attitudinal factors determine consumers' energy savings: cynicism towards oil companies, belief in material growth, and belief in technology. Belief in material growth is considered a crucial factor in consumer behaviour related to energy savings. Belief in technology is negatively associated with consumers' efforts to save energy. Cynicism is unrelated to efforts to save energy (Malodia & Bhatt, 2019). Material growth and belief in technology are linked to attempts to save energy. In contrast, cynicism regarding the causes of the energy crisis does not influence consumer behaviour in energy savings (Tashchian et al., 1984). Perceived quality, price, emotional, and environmental values significantly and positively affect consumers' purchasing attitudes. The highest value is environmental, followed by emotional and quality values (Zhang et al., 2020).

Understanding the potential for energy consumption can offer a more comprehensive perspective for designing policy measures to influence consumer energy use (Thapar, 2020). Perceived energy efficiency, effectiveness, and personal norms have a significant, positive impact on consumers' attitudes towards energy purchases (Zhang et al., 2020). To address the sustainability of consumer behaviour, research challenges are presented using a bottom-up approach, focusing on the involvement of individuals and communities in decision-making processes, as stated by Kim et al. (2021). Changing consumer behaviour in energy use should be the first step towards achieving energy savings on the user side (Tyagi et al., 2020). According to Zhang et al. (2020), consumers' purchasing attitudes have a positive influence on their Willingness To Pay, referred to as WTP in the international literature.

Kolosok et al. (2021) conducted research focusing on the areas of safety, efficiency, and reliability of individual components in energy systems. The authors found that improvements in these areas are crucial for supporting the development of renewable energy sources. According to Antil (1984), the understanding of how consumers make decisions and address energy-related issues is limited. Samuelson & Biek (1991) performed a confirmatory factor analysis of four main dimensions identified by Seligman et al. (1979) and Becker et al. (1981). These dimensions form the basis of attitudes and beliefs regarding energy use. The dimensions include comfort and health, high effort, the role of the individual consumer, and the legitimacy of the energy problem. Samuelson & Biek (1991) found that individuals' attitudes towards energy savings are influenced by perceptions of comfort and health, as well as expectations of return on investment. The role of the individual in energy issues and the perception of the legitimacy of the energy problem play a key role in the willingness to change behaviour towards energy savings. Bethem et al. (2020) emphasise that, as with CE, in decision-making about energy preferences, it

is essential to consider broader ethical and social factors beyond purely economic perspectives, enabling a more comprehensive understanding of the impacts on society. Bishoge et al. (2021) highlight that effective behaviour and attitudes towards energy consumption are essential for achieving sustainable development, and this ethical dimension must be considered when designing energy policies and strategies.

The selection of evaluation indicators, such as the appropriate implementation of policies for new supportive technologies and investments in renewable energy sources, provides stakeholders with an economic justification for investing in sustainability (Razmjoo et al., 2021). Sustainability research, as emphasised by Antil (1984), is also desirable from a psychological perspective because it helps understand people's motivations and behaviours when seeking ecological solutions. This approach is particularly crucial in the context of renewable energy technologies, which have significant potential to ensure energy stability, mitigate the impacts of climate change, and support economic growth (Bowen et al., 2021). Ghobakhloo & Fathi (2021) demonstrate how Industry 4.0 technologies support sustainable energy use through key functions associated with technological innovations. Borowski (2022) identified two directions in the development of the energy market. One focuses on renewable energy sources, while the other is driven by the energy crisis. These directions clash, as the former reduces ecological burden, while the latter increases emissions and contributes to global warming. Gitelman and Kozhevnikov (2022) note that a decrease in energy consumption may lead to production limitations, changes in industry, and reduced comfort. This issue is exacerbated by urbanisation, which, according to Xu et al. (2022), increases energy demand due to population concentration and the growing infrastructure needs of cities.

It is important to emphasise that the impacts and connections between consumer ethnocentrism and attitudes towards energy efficiency have not been studied to date. However, based on several studies (Good & Huddleston, 1995; Durvasula et al., 1997), it can be expected that consumers with higher levels of consumer ethnocentrism will be more likely to conserve energy in order to help their country during an energy crisis.

The aim of this article is to examine the impact of ethnocentrism on attitudes toward energy conservation during an energy crisis. In line with the article's objective, and based on the aforementioned literature as well as the scientific abstract, we have formulated the following research questions (RQ) and hypotheses (H) to fulfil the article's goal:

RQ1: What is the current level of consumer ethnocentrism?

RQ2: What is the level of attitudes toward energy conservation?

RQ3: How can the connection between consumer ethnocentrism and attitudes toward energy conservation be characterized?

H1a: There is a relationship between consumer ethnocentrism and the cynicism dimension within attitudes toward energy conservation.

H1b: There is a relationship between consumer ethnocentrism and the material growth dimension within attitudes toward energy conservation.

H1c: There is a relationship between consumer ethnocentrism and the belief in the technology dimension within attitudes toward energy conservation.

H1d: There is a relationship between consumer ethnocentrism and attitudes toward energy conservation.

Methodology

In the methodology, we created a theoretical foundation that served as a basis for formulating the research questions and hypotheses, which we subsequently verified through primary data collection. In addition to generic scientific methods (such as analysis, scientific abstraction, etc.), we also employed statistical methods, including both descriptive and inductive statistics. The paper focuses on two concepts: consumer ethnocentrism and attitudes toward energy conservation, as well as their potential connection. Both concepts are measured using specific tools (CETSCALE, ATEC), supported by scientific articles demonstrating their validity. We assessed the reliability of the research instruments using McDonald's omega, Cronbach's alpha, and item-rest correlations, each with its advantages and disadvantages (Cho, 2021; Čvirik, 2024). It is also recommended to use a method in which individual statements are removed from the tool, and the change in the coefficient values is examined. If the value is higher than the overall value, the statement should be excluded (Hayes & Coutts, 2020; Čvirik, 2024). General recommendations for assessing a tool's reliability include achieving levels above 0.7 for McDonald's omega and Cronbach's alpha (Castañeda-Daniels et al., 2022) and above 0.4 for item-rest correlation (Deutscher et al., 2023). To verify the dimensionality of ATEC and ensure its proper use in adapted conditions, we also use confirmatory factor analysis (CFA).

In this context, it is appropriate to monitor selected additional fit measures (CFI above 0.9; TLI above 0.9; RMSEA 90%CI below 0.1; SRMR below 0.06), which indicate the overall quality of the model (Field, 2018; Goretzko et al., 2024). When examining the relationships between concepts, we used correlation coefficients and

also visualized them at the level of individual statements using neural network analysis, which creates structures of systems and their connections (Borsboom et al., 2021; Zhou et al., 2021). In our case, this involves four dimensions (CETSCALE - consumer ethnocentrism; ATEC - Cynicism, Material Growth, Belief in Technology) and their connections. We verified the correlation coefficients using inductive statistics (hypothesis testing) and by calculating confidence intervals to assess the generalizability of the results to the defined population (Schober et al., 2018).

3.1 Sample

The article is supported by primary research conducted during the 2023 energy crisis in the Czech Republic. The population was defined as Generation Z consumers with Czech nationality. Generation Z is understood as consumers born between 1995 and 2009 (Naďová Krošlaková et al., 2024). From this, it follows that two aspects had to be considered within the sample: age and nationality. The age limitation was defined both from an ethical standpoint and because Generation Z members are independent, have their own money, and already have purchasing habits and an understanding of the country's situation. As for nationality, it is a key element in identifying and measuring consumer ethnocentrism. Data collection was conducted using the CAWI method. The resulting sample consisted of 501 respondents, with the sample being representative in terms of gender (50.2% women; 49.8% men) and reflecting a similar age distribution in line with the generational representation presented in the study by the Czech Government Office (2023).

3.2 Research design and its verification

In this paper, we use two measurement tools: primarily CETSCALE (Shimp and Sharma, 1987) and, secondly, the Attitudes Toward Energy Conservation - ATEC (Tashchian et al., 1984). Since these are foreign tools, it is appropriate to analyze the tools' reliability and their items. From a statistical analysis perspective, it is suitable to use reliability estimation coefficients, namely Cronbach's alpha and/or McDonald's omega, both of which have their advantages and limitations (Čvirik, 2024), which is why we decided to use both. We also used item-rest correlation measurement to generate reliable tools. Through the "if item deleted" method, we selected certain statements and adjustments to the tools.

Jiménez-Guerrero et al. (2020) used the most widely used 17-item CETSCALE for studying consumer ethnocentric behaviour, developed by Shimp & Sharma (1987). According to Řezanková et al. (2023), Bose et al. (2024), and Jiménez-Guerrero et al. (2020), CETSCALE is the most widely used scale for measuring CE. The CETSCALE scale has been used by researchers such as Kibret & Shukla (2021), Miguel et al. (2023), Stepchenkova (2023), Sulphey & Faridi (2020), and Čvirik & Dotong (2024), among others. We modified the original version of CETSCALE for the purpose of studying nationality. The tool was translated by native speakers, and its validity was tested through a pilot study. The original version of CETSCALE uses a 5-point Likert scale. Since we wanted to obtain more sensitive data, we used a 7-point Likert scale. It is important to note that CETSCALE is expected to be unidimensional (Liu et al., 2020; Stepchenkova, 2023), so the aforementioned tools can be used to estimate reliability without further modifications. The final version provides a high level of instrument reliability (McDonald's $\omega = 0.984$; 95%CI = <0.982-0.986>; Cronbach's $\alpha = 0.984$; 95%CI = <0.982-0.986>) based on the recommendations of Badenes-Ribera et al. (2024), with sixteen statements for the examined segment. Based on the above, we will continue to use this modified version of the CETSCALE tool.

The second tool used (ATEC) is, according to the authors (Tashchian et al., 1984), a three-dimensional tool, containing the dimensions of cynicism, material growth, and belief in technology. The tool was translated by a native speaker, and its comprehensibility was also consulted. In the first step, we verified the reliability of the individual subscales; the results are presented in Table 1.

It can be concluded that the modified tool demonstrates a high reliability. Of course, in this context, we are still referring to individual dimensions, and given that the tool is multidimensional, it is appropriate to examine it as a whole model. To comprehensively assess the model and its design, the authors used confirmatory factor analysis (CFA).

Tab. 1. Reliability estimate for the ATEC tool.

<i>Cynicism</i>	<i>McDonald's ω</i>	<i>Cronbach's α</i>
<i>Point estimate</i>	0.948	0.948
<i>95% CI lower bound</i>	0.941	0.94
<i>95% CI upper bound</i>	0.954	0.954
<i>Material Growth</i>	<i>McDonald's ω</i>	<i>Cronbach's α</i>
<i>Point estimate</i>	0.928	0.928
<i>95% CI lower bound</i>	0.919	0.918
<i>95% CI upper bound</i>	0.937	0.937
<i>Belief in Technology</i>	<i>McDonald's ω</i>	<i>Cronbach's α</i>

Point estimate	0.934	0.934
95% CI lower bound	0.926	0.925
95% CI upper bound	0.943	0.942

Source: Own calculations in R.

We again followed the guidelines that are typically used in this analytical procedure. The final model is recorded in the model plot (Figure 1).

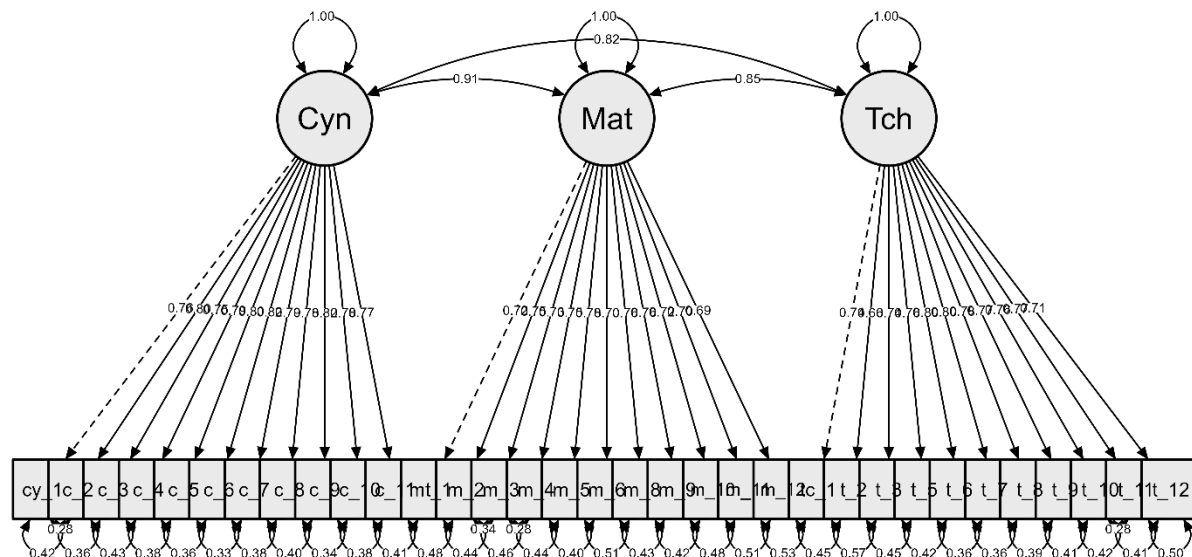


Fig. 1. Modified model of Attitudes Toward Energy Conservation.

Notes:

a) Cyn – Cynicism dimension, Mat – Material Growth dimension, Tch – Belief in Technology dimension.

b) Values are standardized.

Source: Own processing in R.

The presented modified model (Figure 1) achieves acceptable values in terms of additional fit measures (CFI = 0.922; TLI = 0.916; RMSEA 90% CI = <0.059-0.0067>; SRMR = 0.045). Based on the verification of the assumptions, we consider the tool to be of high quality and capable of fulfilling the formulated objectives.

Results

RQ1: What is the current level of consumer ethnocentrism?

The level of consumer ethnocentrism was determined using the modified CETSCALE. Since this is a scale-based tool, the level of consumer ethnocentrism can be determined using a summation index, with values ranging from 16 to 112 points, based on the number of statements and the Likert scale levels. The average measured value of the summation index was 46.16, with a standard deviation of 22.76. The median value was 37 points. From the perspective of the average value, a low level of consumer ethnocentrism (approximately 31.4%) can be stated, as well as based on the median value (approximately 21.9%). The results indicate a significantly low level of consumer ethnocentrism in the studied cohort.

RQ2: What is the level of attitudes toward energy conservation?

The examination of attitudes toward energy conservation focused on the ATEC tool, which includes three dimensions. In this context, it is first appropriate to introduce the individual dimensions, followed by the attitude toward energy conservation.

The first dimension focuses on cynicism, which generally reflects a tendency to view the energy crisis as a non-problem. All statements were, on average, above the midpoint of the Likert scale, indicating a certain degree of cynicism. The median value across all statements was level 5, suggesting agreement with positions that reflect rather cynical behaviour. The results can also be interpreted through the summation index, where, given the number of questions (eleven) and the seven-point Likert scale used, the measured values range from 11 to 77 points. The average measured value within the summation index was 50.46 points, with a standard deviation of 10.4 points. The median value was 53 points. The results thus indicate cynical behaviour at approximately 60%.

The second dimension focuses on Belief in Material Growth, which generally represents a tendency to perceive material growth at the expense of energy sustainability and efficiency. All statements were, on average, above the midpoint of the Likert scale, indicating a certain degree of belief in material growth. The median value ranged between 4 and 5 points, suggesting a preference for material growth over frugality. The results can also be interpreted using the summation index, where, given the eleven questions and the seven-point Likert scale, the measured values range from 11 to 77. The average measured value within the summation index was 48.54 points, with a standard deviation of 10 points. The median value was 50 points. The results thus indicate a preference for material growth (approximately 57%).

The third and final dimension focuses on Belief in Technology, which generally reflects a tendency to believe that technological progress will solve the energy crisis without individual action. All statements were, on average, above the midpoint of the Likert scale, suggesting a certain degree of belief in technological progress. The median value was at level 5, except for statement no. 2. The results can also be interpreted through the summation index, where, given the eleven questions and the seven-point Likert scale used, the measured values range from 11 to 77 points. The average measured value within the summation index was 49.2 points, with a standard deviation of 9.5 points. The median value was 51 points. The results thus indicate a preference for technological progress (approximately 58%).

The Attitudes Toward Energy Conservation tool can also be assessed based on the summation index. In principle, the tool includes thirty-three statements, indicating that the measured values will range from 33 to 231 points. The average measured value was 148.2, with a standard deviation of 27.8. The median value was 154 points. It is important to note that a higher score indicates a lower willingness to conserve energy. Overall, the ATEC level was approximately 58%, suggesting a tendency to avoid energy conservation.

RQ3: How can the connection between consumer ethnocentrism and attitudes toward energy conservation be characterized?

To evaluate RQ3, we examined the connections between individual statements. Given that there were 49 statements, creating a correlation matrix to study their relationships would be impractical. Therefore, the authors created a network plot (Figure 2).

The results of the network analysis (Figure 2) provide an initial insight into the relationships not only between the examined concepts but also within them. From Figure 2, it is clear that the analysis distinctly highlights two concepts: consumer ethnocentrism and attitudes toward energy conservation, which clearly indicate the compatibility of these concepts. Strong positive correlations within the CETSCALE can also be observed, as well as negative correlations between individual CETSCALE statements and statements from the attitudes toward energy conservation scale. The Belief in Technology dimension was also isolated, while the Belief in Material Growth dimension overlaps with the other dimensions, which is logical given the nature of the questions and the semantics of the statements.

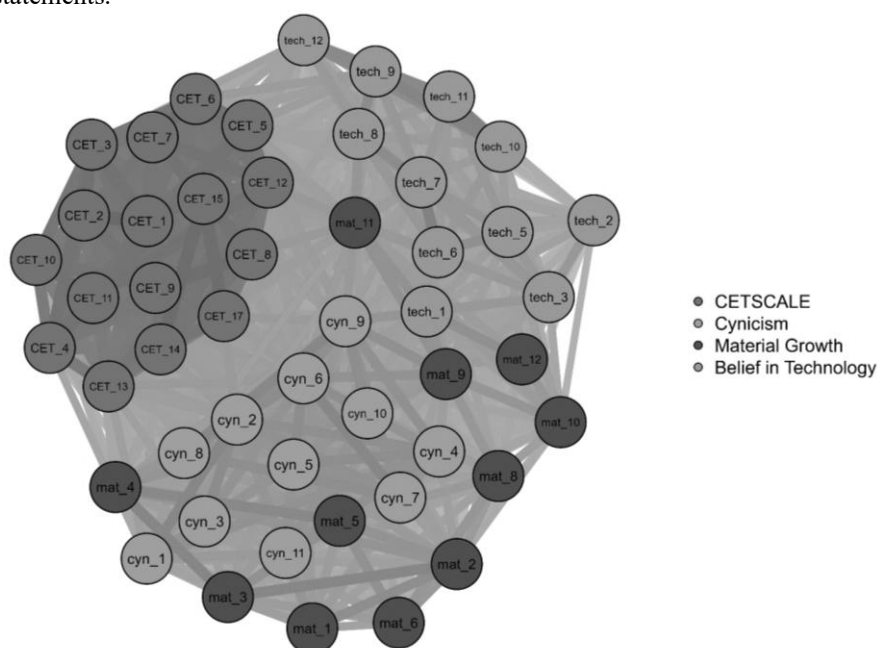


Fig. 2. Network plot.
Note: Estimator-Correlation.
Source: Own processing in R.

Tab. 2. Results of hypothesis testing.

Hypothesis			CET
H1a	There is a relationship between consumer ethnocentrism and the cynicism dimension within attitudes toward energy conservation.	Pearson's <i>r</i>	-0.696
		<i>p</i> -value	9.914×10^{-74}
		Upper 95% CI	-0.648
		Lower 95% CI	-0.738
H1b	There is a relationship between consumer ethnocentrism and the material growth dimension within attitudes toward energy conservation.	Pearson's <i>r</i>	-0.677
		<i>p</i> -value	1.812×10^{-68}
		Upper 95% CI	-0.627
		Lower 95% CI	-0.722
H1c	There is a relationship between consumer ethnocentrism and the technology dimension of attitudes toward energy conservation.	Pearson's <i>r</i>	-0.685
		<i>p</i> -value	9.970×10^{-71}
		Upper 95% CI	-0.636
		Lower 95% CI	-0.729
H1d	There is a relationship between consumer ethnocentrism and attitudes toward energy conservation.	Pearson's <i>r</i>	-0.737
		<i>p</i> -value	8.609×10^{-87}
		Upper 95% CI	-0.694
		Lower 95% CI	-0.774

Source: Own processing in R.

Certainly, the presented visualisation is more for orientation rather than verification. To verify the relationships among the formulated hypotheses (H1a–H1d), summation indices were used. The hypotheses were tested using Pearson's *r*, and hypothesis testing for the generalisability of the non-zero relationship was conducted ($\alpha = 0.05$). Additionally, confidence intervals were used for generalisation, providing a better understanding of the situation in the population. The results are recorded in Table 2.

The results presented in Table 2 indicate a strong negative relationship between the level of consumer ethnocentrism, measured using CETSCALE, and the dimensions (H1a, H1b, and H1c), as well as attitudes toward the energy conservation tool itself (H1d). A strong negative correlation can also be expected in the population. It can be concluded that with a higher level of consumer ethnocentrism, cynicism decreases, the belief that technology will help energy conservation without individual involvement declines, and the need for material growth also decreases.

Discussion

The paper focuses on three areas of results: the first on consumer ethnocentrism, the second on attitudes toward energy conservation, and the third on potential connections between the presented concepts. To identify consumer ethnocentrism, the CETSCALE tool was used, which was modified to enhance the reliability of the tool for the specific cohort. Several studies (Kibret & Shukla, 2021; Tang et al., 2022; Čvirik & Dotong, 2023) highlight the need to modify the tool, while the results also offer some potential for international comparison. The results indicate a relatively low level of consumer ethnocentrism, which is characteristic of young consumers (Han & Won, 2018; Rašković et al., 2020; Poelmans et al., 2024). The ATEC tool was modified to study the energy crisis, but the dimensions were retained. In the context of attitudes toward energy conservation, three dimensions were examined. It can be concluded that there are relatively high values within each dimension and for the overall tool. In this regard, it can be stated that the studied population has a negative attitude toward energy conservation, which somewhat contradicts the prevailing view that the younger generation is environmentally conscious (Nikolić et al., 2022; Gomes et al., 2023; Khan, 2024). It is important to note that personality preferences and traits are reflected in cynicism and the interest in material growth, which are more significant elements for Generation Z than ecological and environmentally conscious behavior, such as energy conservation in the context of the ongoing energy crisis (Drolet & Yoon, 2020). Additionally, Generation Z is a technologically driven generation, growing up in a technology-driven environment where they are surrounded by and rely on technology everywhere (Szymkowiak et al., 2021; Lisana, 2024), which also shapes their beliefs about technology. It can be concluded that consumers with higher levels of consumer ethnocentrism tend to suppress their cynicism, materialistic growth needs, and belief in technology, as reflected in their increased willingness to save energy.

Conclusion

The topic of the presented article focuses on examining the relationships between consumer ethnocentrism and attitudes toward energy conservation during the energy crisis. These concepts were explored within Generation Z in the Czech Republic. To achieve this objective, it was necessary to quantify the level of consumer ethnocentrism and identify attitudes toward energy conservation. The results indicate a low level of consumer ethnocentrism and a higher level of negative attitudes toward energy conservation in the studied cohort. We also

demonstrated a negative correlation between the CETSCALE and ATEC measurement tools. In terms of the polarity of the tools, the results indicate that consumers with higher levels of consumer ethnocentrism tend to have a more positive attitude toward energy conservation. Regarding the dimensions of ATEC, it can be expected that consumers with higher levels of consumer ethnocentrism are less cynical, less oriented toward material growth, and less reliant on technological solutions.

The results have practical significance in various areas. They highlight the need to increase the level of consumer ethnocentrism, which could manifest in supporting domestic production, boosting the local economy (Kreckova et al., 2012; Trivedi et al., 2024), and, according to our findings, in a greater willingness to save energy. This could be an important factor in combating the energy crisis. These results can be used by domestic businesses (for whom consumer ethnocentrism presents an opportunity), foreign businesses (for whom it presents a barrier), environmental organizations, and the government to improve the domestic economy. The academic contributions of this article can be identified both in the construction of reliable tools for measuring the studied concepts and in the results of their measurement, which can serve as a basis for managerial, marketing, and governmental decision-making.

The article also has certain limitations. The results can only be interpreted within the context of the studied population. Similarly, comparisons may be limited, as the ATEC tool was modified for the specifics of the current energy crisis, rather than the energy crisis resulting from oil shocks. Future research could focus on different populations, allowing for generational comparisons, as well as comparisons based on selected socio-demographic characteristics of consumers. Additionally, international comparisons would be valuable, highlighting the potential applications of consumer ethnocentrism in different cultural contexts.

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